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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/440,144	11/15/1999	JEFFREY G. MARX	065640/0119	2590

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EXAMINER

CHATTOPADHYAY, URMI

ART UNIT	PAPER NUMBER
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3738

DATE MAILED: 06/06/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/440,144

Applicant(s)

MARX ET AL.

Examiner

Urmi Chattopadhyay

Art Unit

3738

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37.CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 22 February 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-41 is/are pending in the application.
- 4a) Of the above claim(s) 27-36 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-26 and 37-41 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 November 1999 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☒ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4-6.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

## DETAILED ACTION

### *Election/Restrictions*

1. Applicant's election of Group I, claims 1-26 and 37-41, in Paper No. 8 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)). Accordingly, claims 27-36 have been withdrawn from consideration.

### *Oath/Declaration*

2. The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because: the United States Application Number identified is incorrect. It should be changed from "09/444,144" to --09/440,144--.

### *Specification*

3. The abstract of the disclosure is objected to because of the following reason. Correction is required. See MPEP § 608.01(b).

Applicant is reminded of the proper language and format for an abstract of the disclosure.

✓ The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of **50 to 150 words**. It is important that the abstract **not exceed 150 words** in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

***Claim Objections***

- ✓ 4. Claim 1 is objected to because of the following informalities: on line 4, after "porosity" the "." should be changed to a --;--. Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1-26 and 40-41 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

✓ Claims 1, 21, 40 and 41 are indefinite because in part (h) of each claim, it is unclear what is being sintered. Applicant should specify that it is the entire reticulated substrate with coating that is being sintered.

Claims 7-9 and 11 are indefinite because they are not commensurate with the scope of claim 1, on which they depend. These claims must first specify that the successive dispersion is either different from (claims 7, 9 and 11) or the same as (claim 8) the first coating or preceding dispersion, and then limit the viscosity of the successive dispersion.

*Claim Rejections - 35 USC § 102*

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1-10, 14-18, 21, 25-26 and 37-41 are rejected under 35 U.S.C. 102(b) as being anticipated by Antsiferov et al. (WO 95/11752).

Antsiferov et al. discloses an open cell foam structure and the process of making the open cell foam structure with all the elements of claims 1, 21 and 37. See abstract, page 6, lines 8-24 and pages 10-11, lines 23-4.

Claims 2 and 25, see page 12, lines 5-14. Since the composition of the dispersion and process of producing the rigid articulated article as claimed in claim 1 are met by Antsiferov et al., it is inherent that the first and one or more coatings will meet the requirements of claim 2.

Claims 3-5, 14 and 26, see pages 11-12, lines 35-3 for substrate.

Claim 6, see page 6, lines 8-24 for one additional coating. This claim only requires that no more than six additional coatings be provided.

Claims 7-9, see page 12, lines 16-25 for dispersion viscosity. Because the second slip is prepared using substantially the same ingredients as in the first slip, with the addition of a pore-forming additive, the viscosity of the second slip may be lower than or the same as the first slip.

With respect to claim 10, since the composition of the first dispersion of applicant, as claimed in claim 1, is met by Antsiferov et al., it is inherent that the viscosity of the dispersion will be in the range required by claim 10.

Claims 15 and 16, see pages 13-14, lines 31-3 for porosity. The high porosity percentages disclosed by Antsiferov et al. would meet the pore per inch requirement of these claims.

Claim 17, see page 19, lines 9-14 for dispersion removal by squeezing.

Claim 18, see page 11, lines 29-33 for binder.

Claims 37-39, see Figure 1, abstract and page 6, lines 8-24.

Claims 40 and 41, see rejections to claims 1 and 21, supra. Applicant is reminded that claims 40 and 41 are product-by-process claims, and according to MPEP § 2113, these claims are not limited to the manipulations of the recited steps, only the structure implied by the steps. The patentability of a product does not depend on its method of production, but on the product itself.

9. Claims 1-10, 14-18, 21, 25-26 and 37-41 are rejected under 35 U.S.C. 102(b) as being anticipated by Kasprzyk et al. (EP 0 157 974).

Kasprzyk et al. discloses a composite refractory foam and process of making the foam with all the elements of claims 1, 21 and 37. See abstract, pages 3-4, lines 27-24, page 7-8, lines 26-1, pages 9-10, lines 25-11 and pages 10-11, lines 34-8.

Claims 2 and 25, see abstract. Since the composition of the dispersion and process of producing the rigid articulated article as claimed in claim 1 are met by Kasprzyk et al., it is inherent that the first and one or more coatings will meet the requirements of claim 2.

Claims 3-5, 14 and 26, see page 4, lines 8-18 for substrate.

Claim 6, see pages 3-4, lines 27-24 for one additional coating. This claim only requires that no more than six additional coatings be provided.

Claims 7-9, see page 9, lines 25-29 for dispersion viscosity. Because the infiltrating refractory can be a fluid slurry system (like the first refractory material) or a coarse, dry particulate coating, the viscosity of the second slip may be the same as or lower than the first refractory material.

With respect to claim 10, since the composition of the first dispersion of applicant, as claimed in claim 1, is met by Kasprzyk et al., it is inherent that the viscosity of the dispersion will be in the range required by claim 10.

Claims 15 and 16, see page 5, lines 6-11 for porosity.

Claim 17, see pages 8-9, lines 34-1 for dispersion removal by squeezing.

Claim 18, see page 7, lines 33-37 for binder.

Claims 37-39, see abstract and pages 3-4, lines 27-24.

Claims 40 and 41, see rejections to claims 1 and 21, supra. Applicant is reminded that claims 40 and 41 are product-by-process claims, and according to MPEP § 2113, these claims are not limited to the manipulations of the recited steps, only the structure implied by the steps. The patentability of a product does not depend on its method of production, but on the product itself.

#### ***Claim Rejections - 35 USC § 103***

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 19 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Antsiferov et al. in view of Torobin (USPN 5,397,759).

Antsiferov et al. discloses an open cell foam structure and the process of making the open cell foam structure with all the elements of claims 1 and 21, but is silent to the binder being a polyacrylate emulsion, as required by claims 19 and 22. Torobin teaches porous microspheres wherein polyacrylic emulsions are used as binders. Torobin establishes that polyacrylic emulsion is old and well known in the art as a binder and is an equivalent to polyvinyl alcohol, polyethylene and others. See columns 21-22, lines 41-2. Since Antsiferov et al. uses polyvinyl alcohol as the binder (page 11, lines 29-33), it would have been obvious to one of ordinary skill in the art at the time of applicant's invention to look to the teachings of Torobin to modify the process of Antsiferov et al. by using polyacrylic emulsion as the binder rather than the polyvinyl alcohol because they are equivalents.

12. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Antsiferov et al. in view of Torobin as applied to claim 19 above, and further in view of Kasprzyk et al. (EP 0 157 974).

Antsiferov et al., as modified by Torobin, discloses a process of making the open cell foam structure using polyacrylate emulsion as the binder with all the elements of claim 1, but is silent to the emulsion being in the dispersion in an amount of at least 25%, as required by claim 20. Kasprzyk et al. teaches composite refractory foam and teaches that it is well known in the art



to user binders to enhance the uniformity of distribution of the material on the foamed polymer structure during impregnation, or its infiltration, or affect its adherency thereto. See pages 7-8, lines 33-1. Examiner contends that it would have been obvious to one of ordinary skill in the art at the time of applicant's invention to include the polyacrylate emulsion binder in the required amount (greater than 25%) in order to enhance the uniformity of distribution of the material on the foamed polymer structure during impregnation, or its infiltration, or affect its adherency thereto.

13. Claims 23 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Antsiferov et al. in view of Kasprzyk et al.

Antsiferov et al. discloses a process of making the open cell foam structure with all the elements of claim 21, but is silent to the binder being in the dispersion in an amount of at least 25% and 50%, as required by claims 23 and 24, respectively. Kasprzyk et al. teaches composite refractory foam and teaches that it is well known in the art to user binders to enhance the uniformity of distribution of the material on the foamed polymer structure during impregnation, or its infiltration, or affect its adherency thereto. See pages 7-8, lines 33-1. Examiner contends that it would have been obvious to one of ordinary skill in the art at the time of applicant's invention to include the binder in the required amount (greater than 50%) in order to enhance the uniformity of distribution of the material on the foamed polymer structure during impregnation, or its infiltration, or affect its adherency thereto.

14. Claims 19, 20 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kasprzyk et al. in view of Torobin.

Kasprzyk et al. discloses a composite refractory foam and process of making the foam with all the elements of claims 1 and 21, but is silent to the binder being a polyacrylate emulsion, as required by claims 19 and 22. Torobin teaches porous microspheres wherein polyacrylic emulsions are used as binders. Torobin establishes that polyacrylic emulsion is old and well known in the art as a binder. See columns 21-22, lines 41-2. It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to look to the teachings of Torobin to modify the process of Kasprzyk et al. by using the old and well known binder, polyacrylic emulsion. Kasprzyk et al. is also silent to the emulsion being in the dispersion in an amount of at least 25%, as required by claim 20. Kasprzyk et al. does teach that is well known in the art to use binders to enhance the uniformity of distribution of the material on the foamed polymer structure during impregnation, or its infiltration, or affect its adherency thereto. See pages 7-8, lines 33-1. Examiner contends that it would have been obvious to one of ordinary skill in the art at the time of applicant's invention to include the polyacrylate emulsion binder in the required amount (greater than 25%) in order to enhance the uniformity of distribution of the material on the foamed polymer structure during impregnation, or its infiltration, or affect its adherency thereto.

15. Claims 23 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kasprzyk et al.

Kasprzyk et al. teaches a composite refractory foam with all the elements of claim 21, but is silent to the binder being in the dispersion in an amount of at least 25% and 50%, as required by claims 23 and 24, respectively. Kasprzyk et al. does teach that is well known in the art to use binders to enhance the uniformity of distribution of the material on the foamed polymer structure during impregnation, or its infiltration, or affect its adherency thereto. See pages 7-8, lines 33-1. Examiner contends that it would have been obvious to one of ordinary skill in the art at the time of applicant's invention to include the binder in the required amount (greater than 50%) in order to enhance the uniformity of distribution of the material on the foamed polymer structure during impregnation, or its infiltration, or affect its adherency thereto.

*Allowable Subject Matter*

16. Claims 11-13 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ms. Urmi Chattopadhyay whose telephone number is (703) 308-8510 and whose work schedule is Monday-Friday, 9:00am – 6:30pm with every other Friday off. The examiner's supervisor, Corrine McDermott, may be reached at (703) 308-2111. The group receptionist may be reached at (703) 308-0858.

Should the applicant wish to send a fax for official entry into the file wrapper the Group fax number is (703) 305-3590. Should applicant wish to send a fax for discussion purposes only, the art unit fax number is (703) 308-2708.

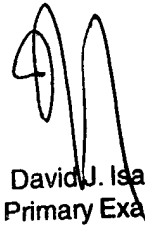


Urmi Chattopadhyay

Art Unit 3738

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May 30, 2002



David J. Isabella  
Primary Examiner